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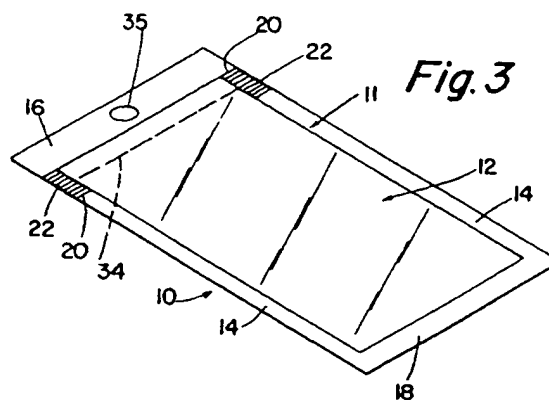
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London WC1V 6RY(GB)(54) **Pouch having means to facilitate tear initiation.**

(57) A hermetic pouch for food products having walls formed of laminated films which comprise one or more layers of polymeric material such as nylon, polyester, or polyethylene, and which may further include a layer of metal foil. The pouch includes a sealed edge portion which is weakened in a pre-determined area to facilitate tear initiation. The weakened area is confined to a minor portion of the seal area extending along one side edge of the pouch, so that the pouch may readily be opened by tearing inward from the edge through the weakened area. The remainder of the seal area is resistant to such tearing to avoid accidental tear initiation at undesired locations.

In the preferred embodiment, each of the walls includes at least one barrier layer. The weakened area is preferably made susceptible to tearing by provision of a plurality of discontinuities in at least one layer of at least one of the walls.

In one embodiment of the invention, two weakened areas are provided opposite one another on upper portions of the side edges of the pouch, in proximity to the upper edge of the pouch, whereby the top of the pouch may be torn off from either side. The pouch may have a reclosable closure extending across its width between its side edges beneath the weakened areas.

**Fig. 3****EP 0 521 618 A2**

Background of the Invention

Field of the Invention

The invention relates to packaging, and more particularly to a pouch having means to facilitate unaided manual tear initiation.

Description of Related Art

Laminated films are commonly used in the packaging art for hermetic pouches for perishables. The films are generally maintained in rolls or webs and fed into apparatus in which the pouches are generated in a form, fill and seal operation. Strength and toughness are required of the pouches to withstand the stress and wear experienced during the form, fill and seal operation and subsequent handling. Barrier properties are also required. The materials chosen for the various layers of the laminated films include polymeric films of, e.g., nylon, polyester, or polyethylene, and/or metal foils composed of, e.g., aluminum. Labels may be printed on a surface which is at the interface of two layers after lamination to avoid exposure of the labels to environmental wear factors while also avoiding contact between the product and the label.

The need for strength and toughness creates a problem in that pouches which have the requisite strength and toughness are often difficult for the consumer to open without the use of scissors or other utensils, absent the provision of means integral with the pouch to facilitate tear initiation. In the past, one approach to the problem has been to provide one or more V-shaped notches along one or more edges of the pouch. Another approach has involved providing one or more slits along an edge, extending perpendicularly inward from the edge, as illustrated in U.S. Patent No. 4,898,280. A third approach has been to form a plurality of very small, shallow cuts, or scratches along the entire length of each of one or more edges of the laminated film, as described in U.S. Patent No. 4,543,279. A fourth approach has been to subject one layer to a surface roughening treatment prior to lamination, as described in U.S. Patent No. 4,778,058, such that one or more edges of the package are weakened along their entire lengths.

There remains a continuing need for improved means to facilitate unaided manual tear initiation in pouches for food products.

Summary of the Invention

In accordance with the invention, there is provided a pouch having a sealed edge portion which is weakened in a predetermined area to facilitate

tear initiation. The weakened area is confined to a minor portion of a seal area extending along one side edge of the pouch so that the pouch may readily be opened by tearing inward from the edge through the weakened area. The remainder of the seal area is resistant to such tearing to avoid accidental tear initiation at undesired locations. Each of the walls of the pouch is preferably of laminated construction, having at least one barrier layer. The weakened area is preferably made susceptible to tearing by provision of a plurality of discontinuities in at least one layer of at least one of the walls, with at least one barrier layer in each wall remaining intact. In one embodiment of the invention, two weakened areas are provided opposite one another on upper portions of the side edges of the pouch, in proximity to the upper edge of the pouch, whereby the top of the pouch may be torn off from either side. The pouch may have a reclosable closure extending across its width between its side edges beneath the weakened areas. The reclosable closure may comprise a pair of complementary, interengageable zipper strips, or may in the alternative comprise a bendable metal strip segment secured to one of the walls.

Brief Description of the Drawings

FIG. 1 is a plan view of a blank for forming a pouch in accordance with the invention.

FIG. 2 is a fragmentary sectional view of a weakened area of the blank of FIG. 1.

FIG. 3 is a perspective view of a pouch in accordance with a first embodiment of the invention.

FIG. 4 is a fragmentary plan view of a pouch in accordance with a second embodiment of the invention.

FIG. 5 is a sectional view of the pouch of FIG. 4, taken substantially along line 5-5 in FIG. 4.

FIG. 6 is a plan view of a pouch in accordance with FIG. 4, shown in a reclosed configuration.

FIG. 7 is a fragmentary plan view of a pouch in accordance with an embodiment of the invention.

FIG. 8 is a sectional view taken substantially along line 8-8 in FIG. 7.

FIG. 9 is a perspective view of a pouch in accordance with FIGS. 7 and 8, shown after opening.

FIG. 10 is a plan view of the pouch of FIGS. 7-9, shown in reclosed configuration.

Detailed Description of Preferred Embodiments

Referring to FIG. 3, the invention is preferably embodied in a pouch 10 comprising a pair of generally rectangular walls 12 heat sealed to one

another about their respective peripheries to define a generally rectangular peripheral seal area 11 and an enclosed interior 13 between said walls. The pouch 10 may be used for consumer packaging of a food product such as shredded cheese, or for various other packaging purposes. The seal area in the illustrated embodiment has side portions 14 extending along opposite sides of the pouch, and upper and lower end seal portions 16 and 18 respectively, extending along the respective top and bottom edges of the package.

In accordance with the invention, each of the side portions 14 of the peripheral seal area 11 has a weakened area 20 extending inward from the side edge 22 adjacent the upper end of the pouch. Each weakened area 20 is confined to a minor portion of its respective side seal portion 14 of the peripheral seal area so that the pouch may readily be opened by tearing inward from the side edge 22 through the weakened area 20, whereas the remainder of the side portion 14 of the peripheral seal area 11 is resistant to such tearing. The location of the areas of weakness 20 adjacent the upper end of the pouch enables the upper end seal portion 16 to be torn off while leaving the remainder of the pouch substantially intact to contain the food product without spillage when the pouch is maintained in an upright position. Means 34 may be provided to facilitate tearing along a straight line across the top of the pouch. The means 34 to facilitate tearing may take the form of a line of weakness, such as a perforation or score line, or in the alternative may simply comprise indicia such as a printed series of line segments to provide a visual guide. A punched circular hole 35 is provided in the upper seal area to enable the pouch to be conveniently supported on a display hanger. The hole is located so that a portion of the upper seal area remains intact beneath the hole to maintain hermeticity.

As shown in FIG. 2, each of the walls 12 of the package is preferably of laminated film construction, comprising at least two layers 24 and 26, of which at least one layer 26 is a barrier layer. The film may include polymeric layers of, e.g., nylon, polyester, or polyethylene, and/or metal foils composed of, e.g., aluminum. The weakened area 20 is defined by a plurality of discontinuities 28 in at least one layer of at least one of the walls. The discontinuities 28 may be random scratches of varying depth, or may be punctures which extend entirely through one of the layers. To maintain hermeticity for the pouch, each of the walls may have at least one barrier layer left intact, free of the discontinuities.

As an alternative to maintain hermeticity for the pouch, the areas of weakness 20 may be confined to outer portions of the side seal areas 14, with

non-weakened regions of the peripheral seal area 11 disposed between the weakened area 20 and the pouch interior 13. This arrangement enables employment of weakening techniques which penetrate all layers of the wall material, without loss of hermeticity.

The embodiment of FIG. 3 is particularly suitable for pouches in which reclosability is not needed. In the embodiments of FIGS. 4-6 and 7-10, the pouch includes a reclosable closure extending between the side edges immediately beneath the weakened areas, but is otherwise substantially similar to the pouch of FIG. 3, and accordingly the same reference numerals used in FIG. 3 are used to denote like elements in FIGS. 4-6 and 7-10.

In the embodiment of FIGS. 4-6, the reclosable closure comprises a bendable metal strip segment 30 secured to one of the walls. The bendable metal strip segment 30 may be of the type described and illustrated in U.S. Patent No. 4,898,280, the disclosure of which is incorporated herewith by reference, and may be secured by a length of sealing tape 31 to the pouch wall in the manner described in Patent No. 4,898,280.

In the pouch of FIGS. 4-6, as in the pouch of FIG. 3, access to the pouch is obtained initially by tearing inward from a side edge 22 through one of the weakened areas 20 and across the pouch to enable the upper end seal area 16 of the pouch to be removed, leaving the product contained in the remaining portion of the pouch. After a portion of the product has been removed, the pouch may then be reclosed by rolling the top of the remaining lower portion of the pouch down around the bendable metal strip segment 30, and subsequently bending end portions 32 of the metal strip segment inward to achieve the configuration shown in FIG. 6. The metal strip segment 30 then retains the package in the closed position.

In the embodiment illustrated in FIGS. 7-10, there is provided a reclosable closure 36 which comprises a pair of complementary interengageable zipper strips 38 and 40. The pouch of FIGS. 7-10 is initially opened by tearing inward from a side edge 22 through one of the weakened areas 20 and across the pouch to enable the upper end seal area 16 of the pouch to be removed, leaving intact a lower portion including free edge areas 42 disposed above the zipper profiles. The edge areas 42 are then manually grasped and pulled apart to disengage the complementary zipper profiles 38 and 40 from one another, and a product such as shredded cheese 44 may then be dispensed as illustrated in FIG. 9. After dispensing of the product, the pouch may be resealed simply by application of pressure to the opposite complementary zipper profiles 38 and 40 along their entire lengths. As illustrated in FIG. 10, this may be accomplished

manually simply by squeezing the profiles between the thumb 52 and forefinger 54 and sliding the thumb and forefinger along the length of the zipper.

The pouch is preferably formed, filled and sealed on vertical form, fill, seal apparatus, using a web of polymeric film material having the areas of weakness preformed thereon. FIG. 1 illustrates a blank 45 for a pouch in accordance with the invention, shown as part of a continuous web 58 having a series of like blanks thereon. The blank comprises wall portions 46 having areas of weakness 48 and 50 preformed thereon at the edges and at the center, and has a prepunched hole 56 in each of its wall portions 46. The blank may be formed into a pouch in accordance with the invention by folding along its longitudinal axis and sealing it about its periphery in a vertical form, fill, seal operation. When the blank is folded, the areas of weakness 48 at the edges of the blank and the holes 56 meet, and the central area of weakness 50 is folded in half.

In accordance with a first method of providing the discontinuities which facilitate tear initiation at the areas of weakness, a studded wheel is applied to the web of material to be used as one of the layers in the walls of the finished pouch, prior to lamination of the layers. The discontinuities of predetermined size. In accordance with a second method, the areas of weakness may be formed after forming, filling and sealing the pouch by a studded wheel similar to that described above, or by an abrasive implement which abrades one or both surfaces of the peripheral seal area in the desired region 22. In the latter case, the areas of weakness are limited to outer portions of the peripheral seal area so that the inner portion of the seal area remains intact to ensure that hermeticity is maintained.

From the foregoing it will be appreciated that the invention provides a novel and improved pouch. The invention is not limited to the embodiments described hereinabove, nor to any particular embodiments, but is particularly pointed out in the following claims.

Claims

1. A pouch comprising:

a pair of generally rectangular walls joined to one another about their respective peripheries so as to define a pair of side edges, a pair of end edges, and an enclosed interior, each of said walls comprising at least one layer of material;

a seal area having at least one side portion extending along at least one of said side edges and at least one end portion extending along at least one of said end edges;

said side portion having a weakened area extending inward from said side edge adjacent one of said end portions;

said weakened area being confined to a minor portion of said side portion so that said pouch may readily be opened by tearing inward from said side edge through the weakened area, while the remainder of said portion is resistant to such tearing;

said weakened area being defined by a plurality of discontinuities in at least one layer of at least one of said walls.

2. A pouch in accordance with Claim 1 wherein each of said walls is of laminated construction comprising a first layer and a second layer, said first layer being a barrier layer and being free of discontinuities, said discontinuities being formed in said second layer.

3. A pouch in accordance with Claim 1 further comprising a reclosable closure extending between said side edges in proximity to said weakened area, said weakened area being between said reclosable closure and the adjacent end edge of said pouch.

4. A pouch in accordance with Claim 3 wherein said reclosable closure comprises a pair of complementary interengageable zipper strips.

5. A pouch in accordance with claim 3 wherein said reclosable closure comprises a bendable metal strip segment secured to one of said walls.

6. A hermetic pouch and food product contained therewithin, comprising:

a pair of generally rectangular walls sealed to one another about their respective peripheries to define a generally rectangular peripheral seal area and an enclosed interior between said walls containing said food product;

each of said walls being of laminated construction, comprising first and second layers of material, said first layer of each wall being a barrier layer;

said pouch having an upper edge, a lower edge, and a pair of side edges,

said generally rectangular peripheral seal area having a top portion extending along said upper edge of said pouch, a bottom portion extending along said lower edge of said pouch, and a pair of side portions extending along said side edges of said pouch;

each of said side portions of said generally rectangular peripheral seal area having an area of weakness adjacent the top portion to facili-

tate unaided manual tear initiation whereby a tear may be initiated at either side edge within the area of weakness, and propagated across the pouch to provide an opening for dispensing of said food product;

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each area of weakness being defined by a plurality of discontinuities in said second layer, said first layer being free of discontinuities;

each area of weakness being confined to a minor portion of its respective side portion so as to avoid accidental tear initiation at undesired locations.

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7. A hermetic pouch and food product in accordance with Claim 6 wherein said food product comprises shredded cheese.

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8. A hermetic pouch and food product in accordance with Claim 7 wherein said pouch further comprises a reclosable closure extending between said side edges in proximity to said weakened areas, said weakened areas being between said reclosable closure and the top edge of said pouch.

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9. A hermetic pouch and food product in accordance with Claim 8 wherein said reclosable closure comprises a pair of complementary interengageable zipper strips.

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10. A hermetic pouch and food product in accordance with Claim 8 wherein said reclosable closure comprises a bendable metal strip segment secured to one of said walls.

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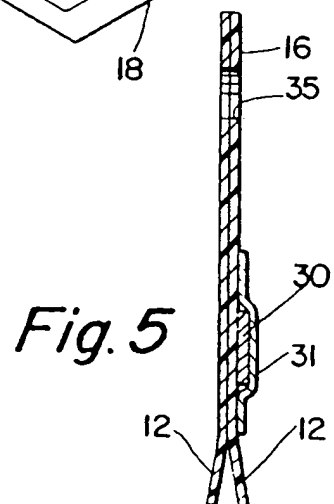
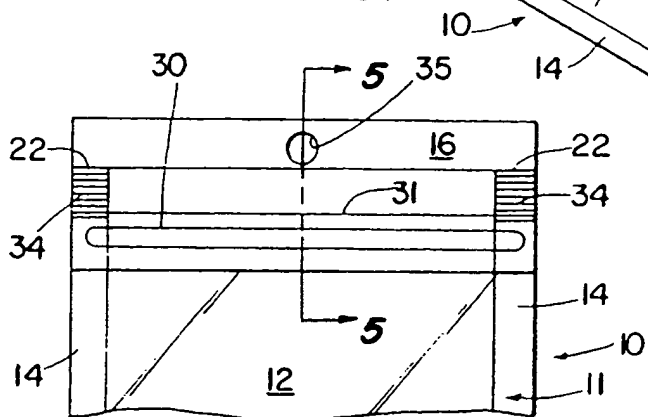
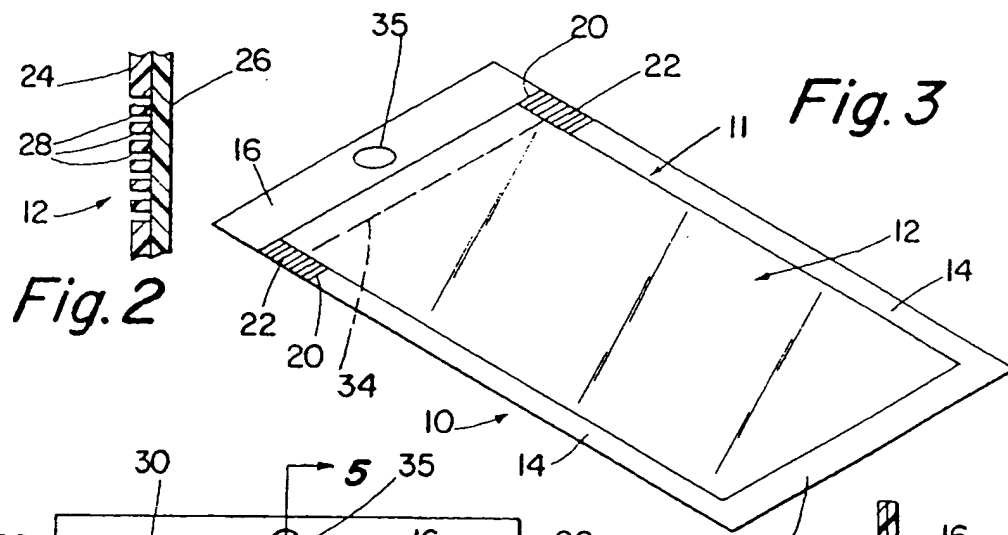
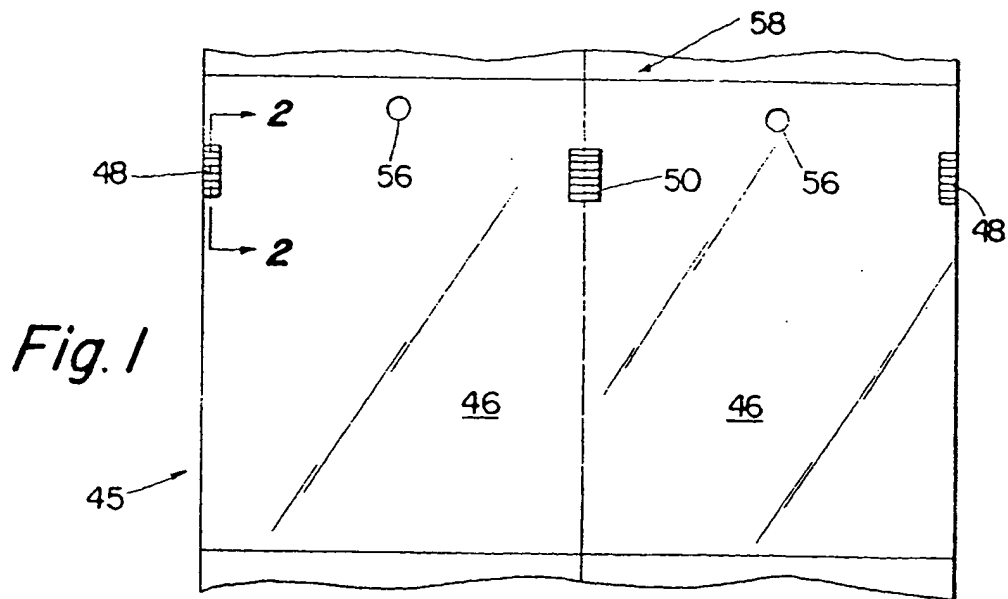


Fig. 6

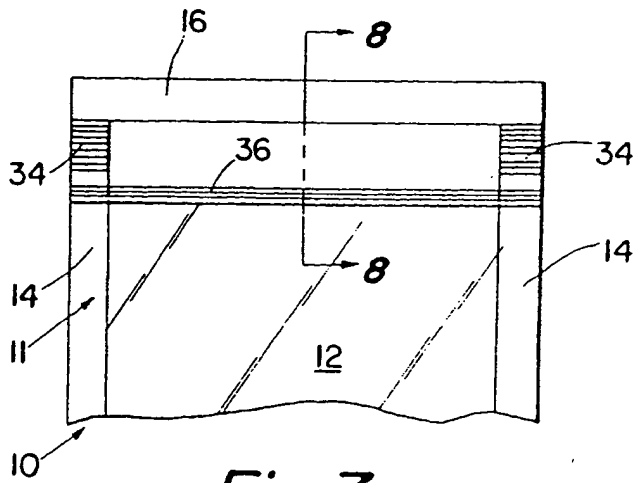
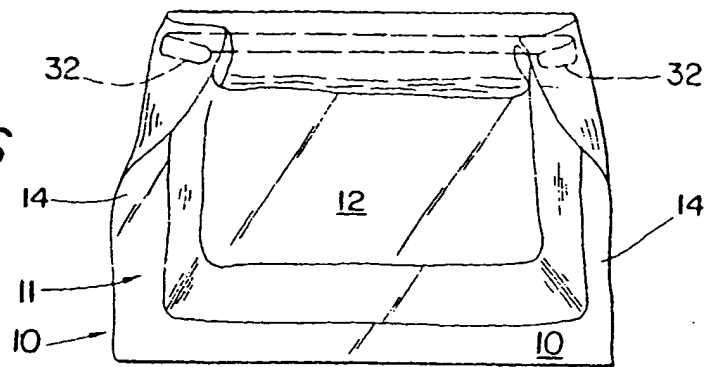


Fig. 7

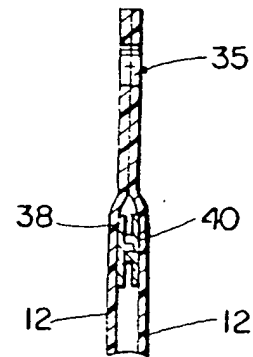


Fig. 8

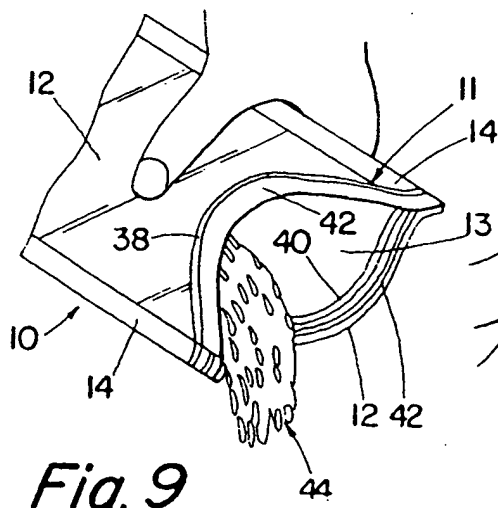


Fig. 9

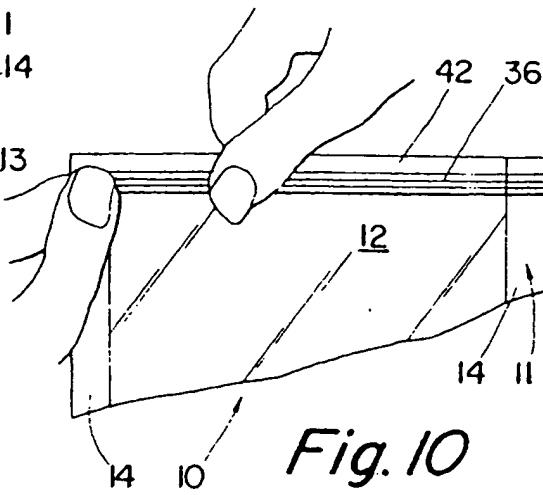


Fig. 10

nalement localisée de la zone de scellage transversale, comme c'est le cas pour la zone d'affaiblissement 36A.

5 Dans les deux cas, la zone d'affaiblissement microporeuse permet une séparation facile de deux poches successives par déchirement de l'emballage suivant la ligne de perforation disposée dans la zone d'affaiblissement microporeuse. En effet, on constate que la déchirure passe facilement d'une perforation à la suivante le long des lignes 34A, 34B.

10 De plus, l'amorçage du déchirement dans une zone de scellage transversale d'une poche séparée, suivant une ligne longitudinale, en vue de l'ouverture de la poche, est facilité par la présence de la microporosité dans ladite zone.

15 Comme illustré sur la figure 3, on peut prévoir en outre, dans un chapelet suivant l'invention, des zones d'affaiblissement microporeuses transversales 38A, 38B, 38C ménagées sur les surfaces des poches au voisinage de leurs zones de scellage transversales, en vue de leur ouverture transversale après séparation des poches du chapelet.

20 De manière générale, lorsque les produits à emballer, de par leur nature, nécessitent des emballages hermétiques à l'humidité, la feuille polymère porte une enduction bouche-pores au moins dans ses zones d'affaiblissement microporeuses, afin d'améliorer l'étanchéité globale.

25 Sur chacune des figures 4 et 5, on a représenté une bande polymère 40, 50 présentée enroulée avec une extrémité déroulée, sur laquelle a été schématisée par des rectangles la position des zones d'affaiblissement microporeuses transversales.

30 Sur la figure 4, les zones d'affaiblissement 42 sont repérées et correspondent à des positions spécifiques

de ces zones sur les emballages qui seront constitués à partir de cette bande.

Sur la figure 5, par contre, le pas entre les différentes zones d'affaiblissement microporeuses 52 est constant et a par exemple une longueur égale au tiers de la longueur des emballages réalisés à partir de cette bande. Ceci permet de réaliser des emballages à partir de cette bande sans positionnement précis préalable, avec comme résultat au moins deux zones d'affaiblissement microporeuses sur chaque emballage en dehors des zones de scellage transversales.

Sur la figure 6 est schématisé un dispositif de traitement par matriçage sélectif d'une bande polymère destinée à la réalisation d'emballages selon l'invention. Ce dispositif comprend deux cylindres presseurs rotatifs 60, 62 suivant des sens opposés représentés par les flèches A et B, dont les axes sont parallèles et entre lesquels une bande polymère 64 est engagée. Le cylindre 62 comporte sur sa face cylindrique externe au moins une zone repérée transversale rugueuse 66. Cette zone pourra par exemple être réalisée avec des éclats de diamant collés sur un cylindre lisse.

Le passage de la feuille suivant le sens de la flèche C entre les deux cylindres rotatifs 60, 62 pressés l'un vers l'autre par des moyens de pressage non représentés, donne naissance par matriçage à des zones d'affaiblissement microporeuses transversales 68 sur la bande polymère. Il est à noter que l'expression "microporeuse" recouvre à la fois le cas de micropores débouchants et celui de micropores fermés, c'est-à-dire constitués par des micro-zones d'épaisseur réduite. En pratique, chaque zone microporeuse comporte généralement un grand nombre de micropores de chaque catégorie. Toutefois, lorsque cela est nécessaire pour éviter toute contamination et/ou dégradation du produit emballé, il est facile, par un ré-

glage approprié des paramètres, de réaliser uniquement des micropores fermés.

Pour obtenir des zones d'affaiblissement microporeuses repérées sur la bande, il suffit d'ajuster le diamètre du cylindre 62 et les positions relatives des zones repérées transversales rugueuses 66 dudit cylindre 62 en fonction du motif souhaité sur la bande polymère 64.

Un tel dispositif de traitement peut être inséré dans une chaîne de production de bande polymère selon l'invention.

En particulier, on peut remplacer le cylindre d'un poste d'héliogravure ou de flexographie classique par un cylindre portant des zones repérées rugueuses afin d'obtenir le traitement souhaité de la bande.

Dans ces conditions, des opérations de matriçage sélectif transversal, d'impression et éventuellement d'enduction et/ou d'encollage de la feuille sont réalisées en ligne.

Selon un mode de mise en oeuvre du procédé de traitement d'une bande selon l'invention, les opérations de matriçage sélectif sont réalisées après l'impression des couleurs par zones repérées et avant les enductions en aplat ou par zones repérées de vernis de protection des impressions et/ou de vernis d'imperméabilisation et/ou d'un adhésif. Toutefois, dans certains cas, il est préférable de réaliser le matriçage avant l'impression, car les impressions en aplat peuvent servir d'enduction dans les zones d'affaiblissement afin d'améliorer l'étanchéité globale.

De préférence, le matriçage est effectué sur la face non imprimée de la feuille, pour conserver la qualité du décor.

Dans tout ce qui précède, on a supposé que l'on partait d'une feuille polymère monocouche. En variante, la feuille polymère peut être multicouche, avec plusieurs

couches polymères collées les unes aux autres, et notamment bicouche. Dans ce cas, le matriçage peut être réalisé sur la structure multicouche, mais, si l'étanchéité de l'emballage est requis, il peut être avantageux de conser-
5 ver au moins une couche non matricée, avant collage de cette couche. On obtient en effet de cette manière les propriétés d'affaiblissement localisé tout en conservant les propriétés de barrière à l'humidité, sans qu'aucun vernis bouche-pores soit nécessaire.

REVENDEICATIONS

1.- Emballage, notamment pour produits alimentaires secs, du type comportant une feuille (1) polymère monocouche ou multicouche dont les bords latéraux sont
5 repliés autour des produits (2) à emballer et sont réunis par une zone de scellage (3) longitudinale, et deux zones de scellage transversales (4, 5) des extrémités de la feuille de part et d'autre des produits à emballer, caractérisé en ce qu'au moins une couche de la feuille polymère
10 de l'emballage présente au moins une zone d'affaiblissement microporeuse (6, 7) s'étendant globalement transversalement et définissant une zone de dissociation préférentielle de l'emballage.

2.- Emballage selon la revendication 1, caractérisé en ce que la zone d'affaiblissement microporeuse (6, 7) s'étend sur l'essentiel du pourtour de l'emballage et se termine, à chaque extrémité, à une certaine distance de la zone de scellage longitudinale (3).

3.- Emballage selon la revendication 1 ou 2, caractérisé en ce qu'il comporte une zone d'affaiblissement microporeuse (6, 7) au voisinage de chaque zone de scellage transversale (4, 5).

4.- Emballage selon la revendication 1 ou 2, caractérisé en ce qu'il comporte une zone d'affaiblissement microporeuse placée à peu près à mi-longueur.

5.- Emballage selon la revendication 1 ou 2, constituant un sachet, caractérisé en ce qu'il comporte une zone d'affaiblissement microporeuse unique placée au voisinage d'une zone de scellage transversale.

6.- Emballage selon la revendication 1, constituant un chapelet qui comporte plusieurs poches (30A, 30B, 30C) pour produits à emballer séparées par une double zone de scellage transversale (32A, 32B) au milieu de laquelle est ménagée une ligne transversale de perforations (34A, 34B), caractérisé en ce qu'il comporte une zone d'affai-
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blissement microporeuse transversale (36A, 36B) chevauchant la ligne de perforations (34A, 34B).

7.- Emballage selon la revendication 6, caractérisé en ce que la zone d'affaiblissement microporeuse (34B) est entièrement située dans la double zone de scellage.

8.- Emballage selon la revendication 6 ou 7, caractérisé en ce qu'il comporte en outre au moins une zone d'affaiblissement microporeuse transversale supplémentaire (38A, 38B, 38C) située entre deux doubles zones de scellage successives.

9.- Emballage selon l'une quelconque des revendications précédentes, caractérisé en ce que la feuille de polymère présente une enduction d'étanchéité sur au moins sa ou ses zones d'affaiblissement microporeuses.

10.- Emballage selon l'une quelconque des revendications 1 à 9, à feuille polymère multicouche comprenant plusieurs couches de matière polymère collées les unes aux autres, caractérisé en ce qu'une couche au moins ne comporte pas de zone d'affaiblissement microporeuse.

11.- Bande polymère (40 ; 50) destinée à la réalisation d'une succession d'emballages selon l'une quelconque des revendications 1 à 10, caractérisée en ce qu'au moins une couche de la bande comporte des zones d'affaiblissement microporeuses (42 ; 52) s'étendant globalement transversalement.

12.- Bande selon la revendication 11, caractérisée en ce que les zones d'affaiblissement microporeuses (52) sont régulièrement espacées d'une distance correspondant au tiers de la longueur des emballages.

13.- Procédé de traitement d'une bande polymère (64) destinée à la réalisation d'emballages selon l'une quelconque des revendications 1 à 10, caractérisé en ce que les zones d'affaiblissement microporeuses sont réalisées par un matriçage sélectif d'au moins une couche de la

feuille transversalement au sens de défilement de celle-ci, lors de son passage entre deux cylindres (60, 62) presseurs dont l'un (62) comporte au moins une zone repérée rugueuse (66).

5 14.- Procédé de traitement selon la revendication 13, caractérisé en ce que l'opération de matriçage sélectif transversal est réalisé en ligne avec des opérations d'impression et éventuellement d'enduction et/ou d'encollage de la feuille.

10 15.- Procédé de traitement selon la revendication 14, caractérisé en ce qu'il comporte les étapes successives suivantes :

a) impression des couleurs par zones repérées sur la feuille polymère,

15 b) matriçage sélectif transversal de la feuille polymère,

c) enduction en aplat ou par zones repérées de vernis de protection et/ou de vernis d'imperméabilisation et/ou d'un adhésif.

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FIG.1

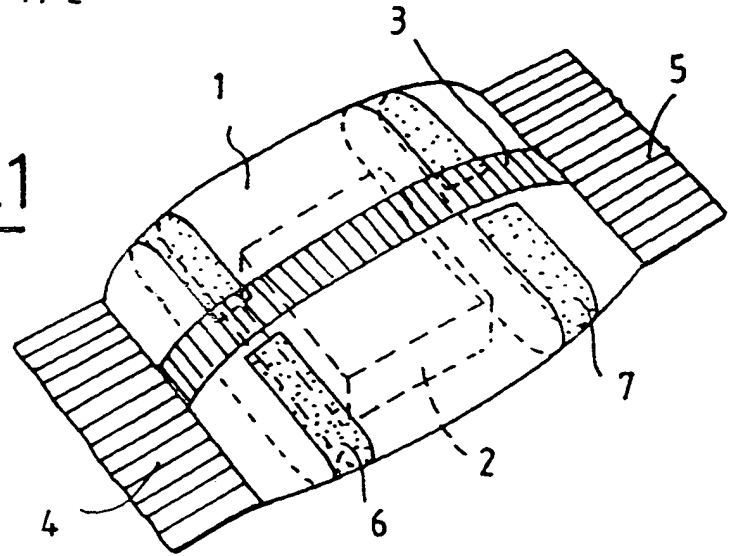
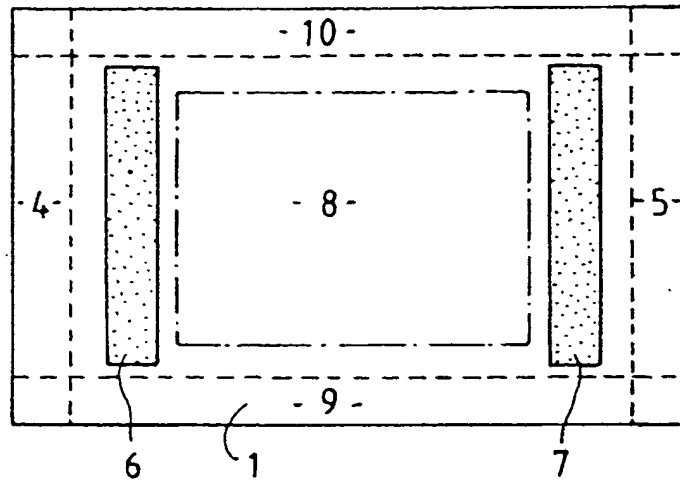


FIG.2



BEST AVAILABLE COPY

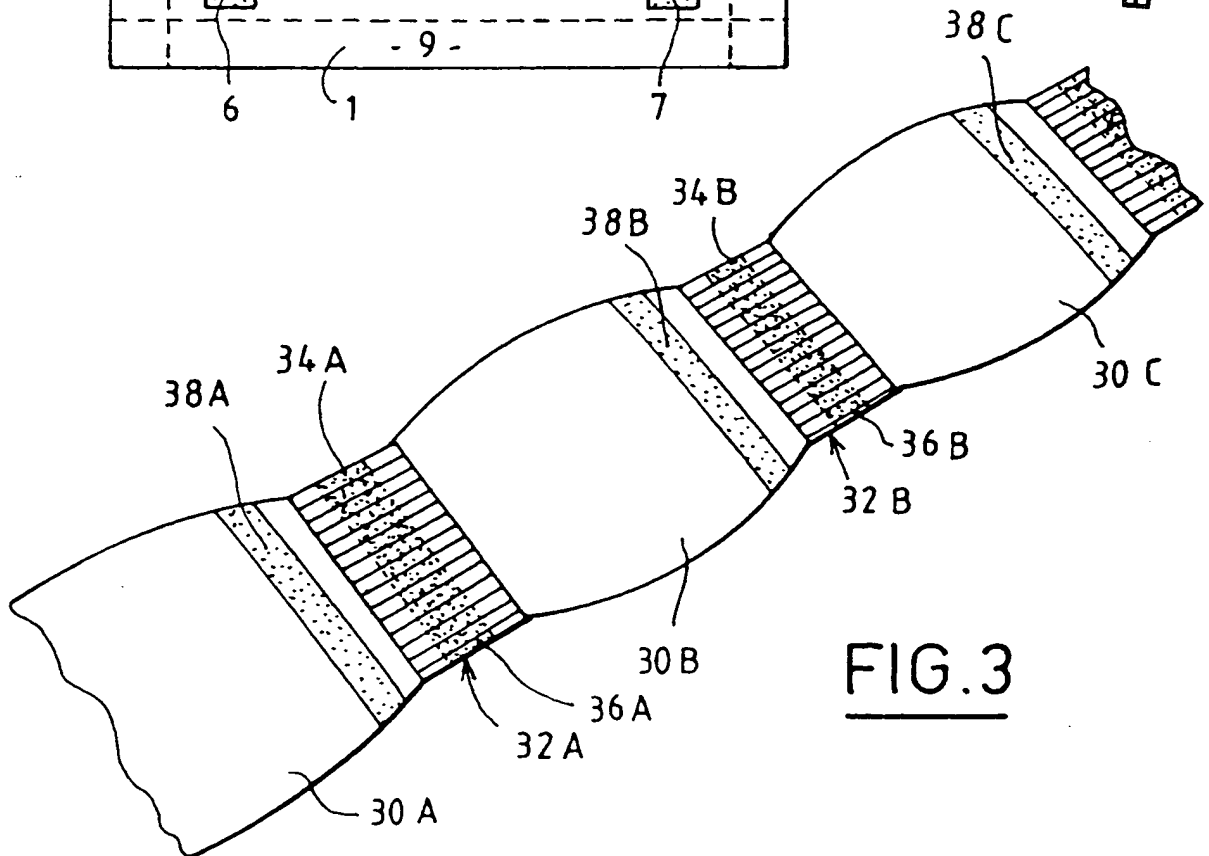


FIG.3

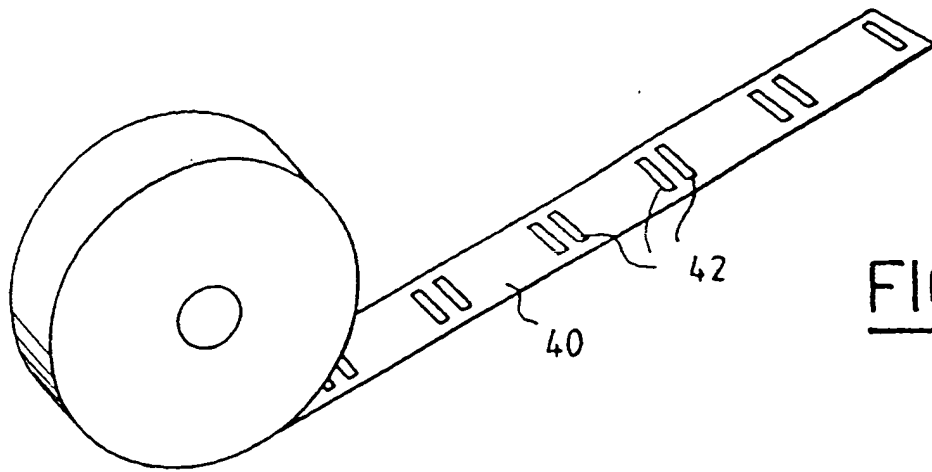


FIG. 4

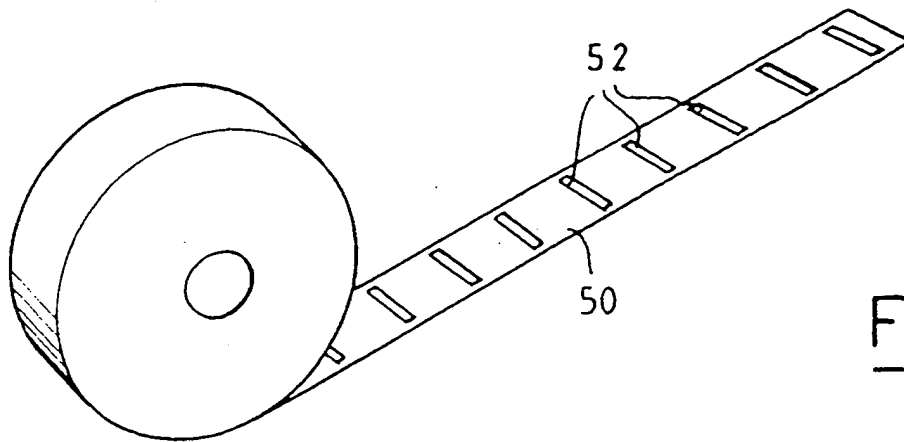


FIG. 5

BEST AVAILABLE COPY

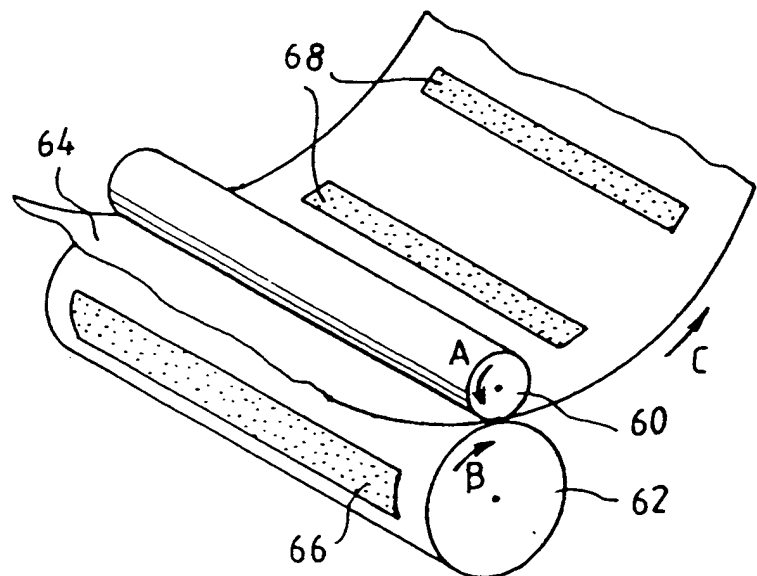


FIG. 6

DOCUMENTS CONSIDERES COMME PERTINENTS		Revendications concernées de la demande examinée
Catégorie	Citation du document avec indication, en cas de besoin, des parties pertinentes	
X	EP-A-0 450 247 (AMERICAN NATIONAL CAN COMPANY) * colonne 4, ligne 39 - ligne 46 * * colonne 6, ligne 50 - ligne 51 * * colonne 7, ligne 9 - ligne 32 * * colonne 8, ligne 16 - ligne 21 * * colonne 11, ligne 6 - ligne 28; figure 13 *	1,4,5, 10,11, 13,14
Y	-----	9,15
Y	EP-A-0 307 194 (K.K. HOSOKAWA YOKO) * colonne 3, ligne 19 - ligne 27 * * colonne 4, ligne 65 - colonne 5, ligne 6 *	9,15
A	EP-A-0 406 613 (NESTLÉ) * revendication 6; figure 3 * -----	1,9
		BEST AVAILABLE COPY
		DOMAINES TECHNIQUES RECHERCHES (Int.Cl.5)
		B65D B65B
Date d'achèvement de la recherche		Examinateur
22 Novembre 1994		Bridault, A
<p>CATEGORIE DES DOCUMENTS CITES</p> <p>X : particulièrement pertinent à lui seul Y : particulièrement pertinent en combinaison avec un autre document de la même catégorie A : pertinent à l'encontre d'au moins une revendication ou arrière-plan technologique général O : divulgation non-écrite P : document intercalaire</p> <p>T : théorie ou principe à la base de l'invention E : document de brevet bénéficiant d'une date antérieure à la date de dépôt et qui n'a été publié qu'à cette date de dépôt ou qu'à une date postérieure. D : cité dans la demande L : cité pour d'autres raisons</p> <p>----- & : membre de la même famille, document correspondant</p>		